Note: This document is designed to outline the process for bring-up of Optical Encoders on a P3 based WAM.

Section 1 - P3-35 Setup (PUCK FIRMWARE MUST BE 2.12 or Greater!!!!!!!)

1. Use burt-util to the role for Optical Encoders:
   bu p2 set 1 ROLE 0x4100
2. Save the property to store the role.
   bu p2 save 1

Section 2 - Calibration

1. Use libbarrett to reset the Joint Encoder Offsets
   ./proj/libbarrett/sandbox/joint_encoder_set_offsets --reset
2. Use libbarrett to initialize the Joint Encoders
   ./proj/libbarrett/sandbox/joint_encoder_init
3. Run bt-wam-zerocal to calibrate the joint offsets
4. Copy the output offsets from the output file at
   /home/robot/Desktop/Offsets.txt
5. Use libbarrett to set the Joint Encoder Offsets
   ./proj/libbarrett/sandbox/joint_encoder_set_offsets [PASTE HERE]

(verify the pasted output matches the form "0,0,0,0,0,0,0" with the values in Offsets.txt)

Section 3 - Testing

1. Use libbarrett to test the Joint Encoders
   ./proj/libbarrett/sandbox/joint_encoder_test
2. When prompted by the menu, enter:
   c joint-encoder-log.csv
3. Let the program run for the desired 20 cycles
4. Once complete, verify the ECMIN and ECMAX for Joints 1-4 are all below 50.
5. Testing is now complete.